Unitech
PA960 WinCE.NET 4.2

Product Reference Guide

www.unitech-adc.com

Unitech America Unitech APAC Unitech Europe Unitech Greater China Unitech Japan

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Chapter 1. Introduction 4
Unitech PA960 & Accessories 6
Tour of the Unitech PA960 7
PA960 Front and Left Side 7
PA960 Back 7
First Steps with the Unitech PA960 8
Installing the Battery Pack 8
Supplying Power to the PA960 9
Charging the Main and Backup Batteries for the First Time 9
Using the Stylus 10
PCMCIA Pulling Tags 10
Insert CF card to PA960 10
Protective Screen Film 11
First Operation of the Unitech PA960 11
Pressing the ON/OFF Key 11
Adjusting Screen Brightness 11
Calibrating the PA960 11
Setting Time Zone, Date, and Time 11
Flash Memory 13

Chapter 2. Using the Keypad and Scanner 14
Keypad 14
Alpha Key 15
Useful hotkeys 15
Software Keyboard (Windows CE Keyboard) 16
Opening the Windows CE Keyboard: 16
Keying-in Characters: 16
International Character Support: 16
Moving the Keyboard: 16
Closing the Keyboard: 16
Using the Laser Scanner 17

Chapter 3. Power system 18
Charging the Lithium-Ion Battery Pack 18
Charging the Main and Backup Battery for the First Time 18
Power Status Indication 19

Checking Main and Backup Battery Status 20
How to Save Battery Power 21
Warm Boot / Cold Boot 22
Charging Considerations 23
Storage and Safety Precautions 23

Chapter 4. Communication 24
Introduction 24
Connecting 24
ActiveSync 25
Installing Microsoft ActiveSync 25
Using the Mobile Devices Window 29
Changing Communications Settings 30
Synchronization 31
What Gets Synchronized 32
Changing Synchronization Options 33
Installing and Removing Software 33
InBox 34
Sending and Receiving E-Mail with InBox 34
Sending Mail Remotely 34
Setting Up Remote Mail 35
Work Remotely 35
Receiving Messages 36
Sending Messages 37
RF Communication 37
Installing the Wireless Local Area Network (WLAN) Card 38
RF Card Cushion 38
Setting Up the Wireless Card 38

Chapter 5. Useful Application Program 42
Scanner Setting 42

Appendix A 44
Appendix B 48
Update OS via Compact Flash (ATA card) 48
Appendix C 50

Chapter 1. Introduction

Thank you for purchasing PA960.

Your PA960 is a rugged, compact and lightweight palm-size computer. It utilizes the Windows CE® operating system, and incorporates an integral bar code scanning laser device, color LCD with touch screen, keypad, IrDA interface, and wireless communication capability. It provides the user with a standard Windows-based environment for customizing and operating the device.
This PA960 product reference guide will guide you to access your PA960.

Unitech PA960

NOTICE

This unit is equipped with a battery pack and backup battery. It is possible that the Unitech PA960 may not power-on due to battery discharge as a result of storage.

In the above situation, plug the PA960 to the RS232 or USB cable which is with DC in port or put the unit into the Unitech PA960 Cradle (with 12V/2A AC-DC adapter), and recharge the unit for 16 hours in order to fully charge its backup battery.

The backup battery will charge from external power or the main battery (if the main battery still has enough power to turn on). In the event the main battery is fully charged, refrain from using the PA960 for 16 hours in order for the main battery to fully charge the backup battery.

Backing-up data by backup battery only without the main battery installed in battery compartment may take as long as 6 hours. Therefore, in order to prevent data protection failure due to backup battery failure, do not leave the PA960 without the rechargeable battery pack installed, or without connection to AC power for an extended period of time.

Unitech PA960 & Accessories

After opening the box, please make sure the following accessories for the PA960 are present:

PA960 Main Body

PA960 CD

Unitech PA960 Quick Reference Guide

Battery pack

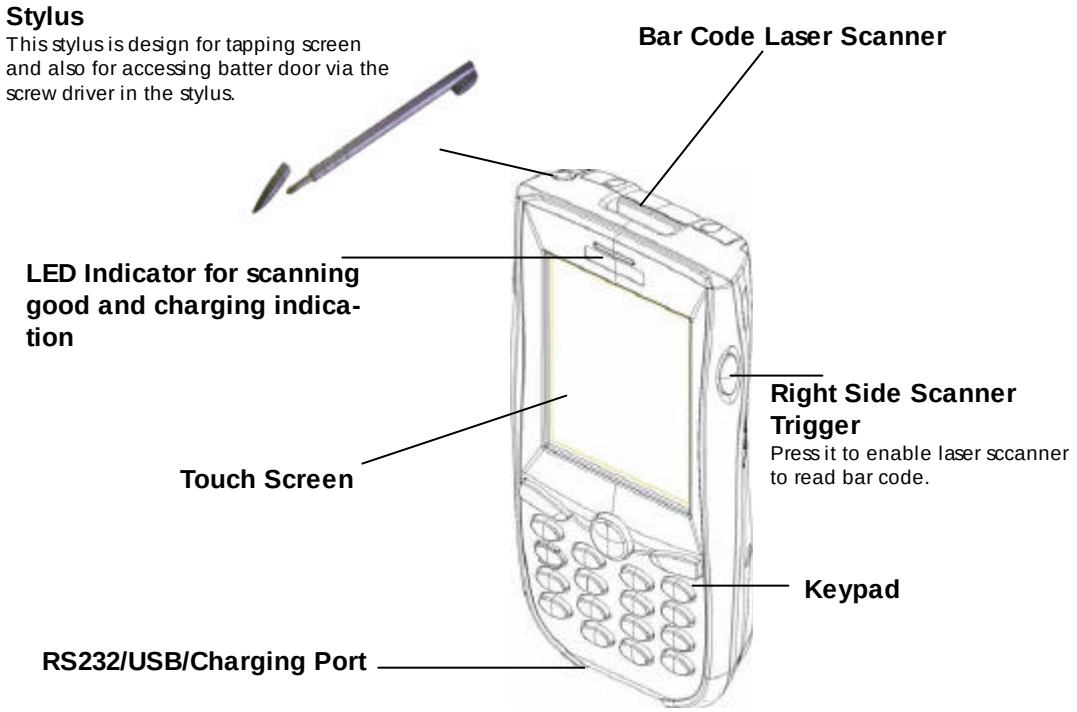
Stylus

CF slot drawer for PA960

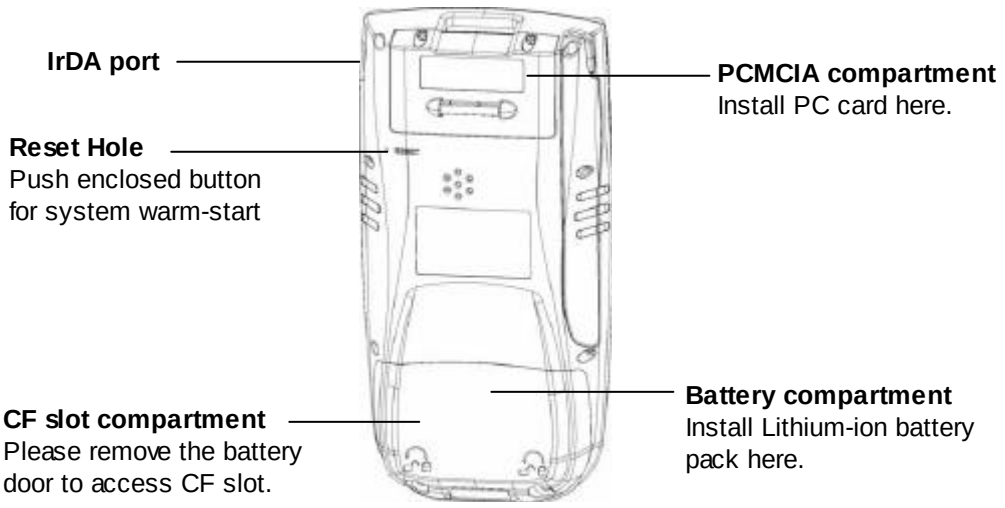
Pulling-tags

RF Card Cushion

Tour of the Unitech PA960


Stylus
This stylus is design for tapping screen and also for accessing batter door via the screw driver in the stylus.
Bar Code Laser Scanner
LED Indicator for scanning good and charging indica-tion
Right Side Scanner Trigger
Press it to enable laser sccanner to read bar code.
Touch Screen
Keypad
RS232/USB/Charging Port

PA960 Back



First Steps with the Unitech PA960

There are three ways to provide power to the PA960:

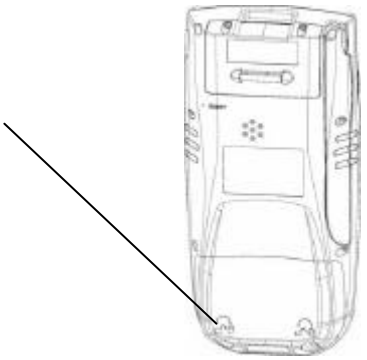
- Rechargeable Lithium-Ion battery pack
- RS232/Charging cable or USB/Charging cable
- Docking Station

NOTE: *Data you enter may not be properly stored until the built-in backup battery has been adequately charged. Please be remided to turn on the back up battery before you charge the terminal.*

Installing the Battery Pack

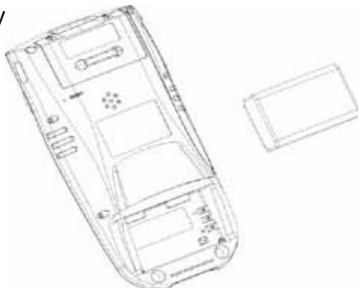
1.

Remove the battery compartment door (located on the lower back side of the unit) by using the screw driver of Stylus.

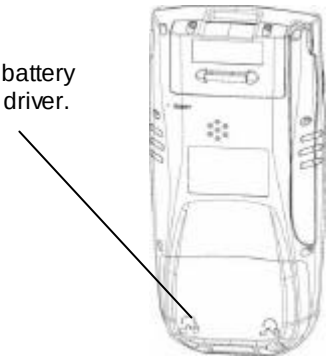


2.

Position the battery pack with the label side towards you, and the battery pack strap towards the bottom of the unit. Insert and fully seat the battery pack, making sure the shape of the battery pack fits the shape of the battery compartment.



3. Position the battery pack and install the battery compartment door by using sylus screw driver.



Supplying Power to the PA960

Connect the RS232/Charging Cable or USB/ Charging Cable to the PA960, and then connect the AC adapter to the cable's power jack and an electrical outlet.

Or place the PA960 into the Docking Station (first connect the power supply to the Docking Station).

Charging the Main and Backup Batteries for the First Time

It may take up to 16 hours to fully charge the empty backup battery. The first time charge should be for at least 16 hours to insure a proper charge.

CAUTION: Operating the PA960 for the first time without the AC adapter, and without fully charging the backup battery may result in loss of data stored in RAM memory.

Using the Stylus

CAUTION: Never use anything other than the PA960's stylus on the screen. Using another object as a stylus could cause permanent damage.

1. Hold the stylus as you would a pencil.
2. To make a choice from a menu, lightly tap the tip of the stylus on that choice.
3. To write data into a field on a form, use the stylus to print the letters or numbers. Use very light pressure.

PCMCIA Pulling Tags

Pulling Tags simplify the removal of PCMCIA cards from the PA960. Before inserting a PCMCIA card, remove one of the three Pulling Tags from the Pulling Tag sheet and adhere it to both sides of the PCMCIA card, leaving a short (approx. ½") tab. To remove the PCMCIA card, simply pull outward on this tab.

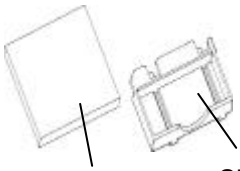
If a PCMCIA card is inserted into the PA960 without previously attaching a Pulling Tag, the card can be removed by affixing a length of adhesive tape to the surface of the card and pulling the card out by pulling outward on the piece of tape.

Front side of PCMCIA card

Insert CF card to PA960

Find the CF drawer from PA960 package, insert CF card to the CF drawer. Then insert the CF drawer to the PA960 and place the CF slot door. Re-install the battery door to PA960 with screw driver of PA960 stylus.

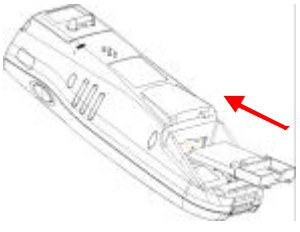
1.



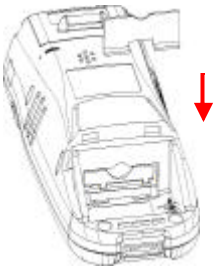
Your CF card.

CF drawer

2.



3



Protective Screen Film

The PA960 screen ships with a protective plastic film. You may remove this if desired by peeling from one corner. The screen will be more susceptible to scratching without the film, but will be more readable.

First Operation of the Unitech PA960

Pressing the ON/OFF Key

The Unitech PA960 welcome screen appears. The Windows CE® screen will appear shortly thereafter.

Adjusting Screen Brightness

Press [**FUNC**] key and Cursor key to decrease or increase screen brightness.

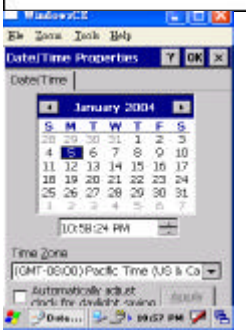
Calibrating the PA960

This screen will automatically appear when the unit is powered-on for the first time or after the system is reset. This screen can also be accessed at any time by pressing the hot key [**FUNC**] and the [**ESC**] key.

The PA960 will prompt you to calibrate the unit by tapping a sequence of screen locations. Tap gently but firmly. When you have completed the series of taps, press the [**ENT**] key to confirm it or press the [**ESC**] key to cancel it.

Setting Time Zone, Date, and Time

After Calibrating the PA960, the “Date/Time Properties” dialog box will appear. Follow the steps below to set the date and time.



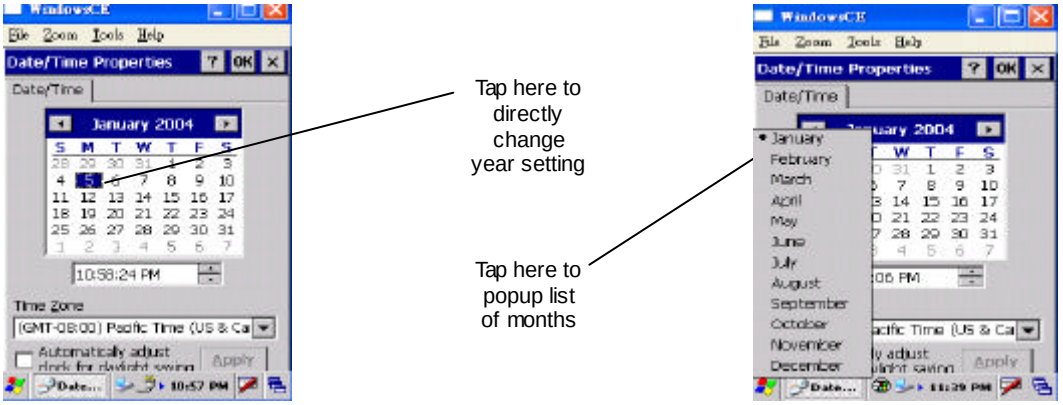
Setting the Time Zone first

Follow the steps below to set up your time zone.

1. Tap the location arrow to see a list of cities.
2. Choose your location (or nearest listed one).
3. Select the Daylight Savings Time check box, if necessary.
4. Tap the APPLY button.

Setting Year and Month

Tap the Left or Right arrows to scroll the month.

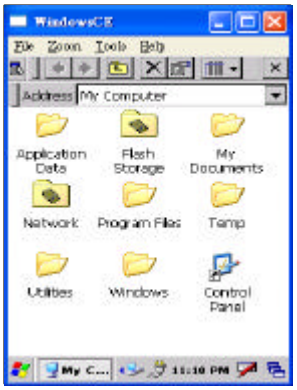


Or directly tap location of year or month to change the year or month setting.

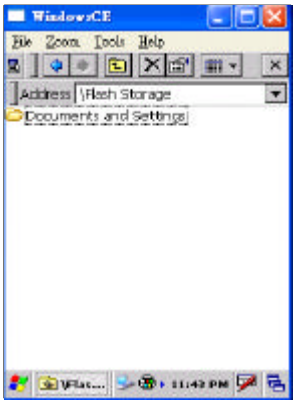
Exiting Date/Time Properties Settings

Tap **OK** or **X** (cancel) button at upper-right corner to exit.

Flash Memory



Flash Memory is a re-writable location in which to store up to 8 MB of programs and data files. The benefit of this feature is that files and programs saved in Flash Memory are unaffected by the PA960's power status.



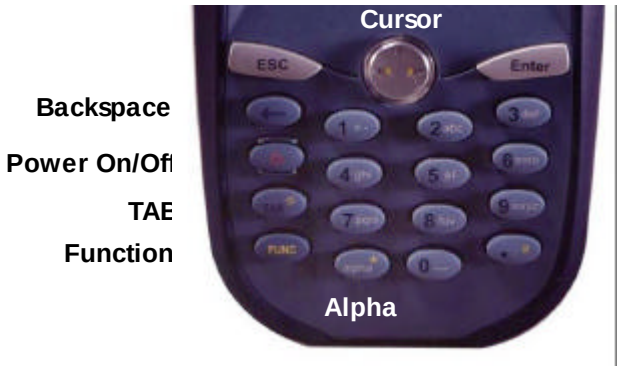
To access the contents of Flash Memory, simply select "My Computer" on the desktop and then select "Flash Storage". The programs and data files currently stored in Flash Memory will be displayed.

To save to Flash Storage, select File, Save To, and select Flash Storage just like you would select any other storage medium.

Chapter 2. Using the Keypad and Scanner

Keypad

The PA960 keypad contains 19 keys, including Cursor key, 0~9, Alpha key, ON/ OFF, Function, Escape, Backspace, and Enter key. Please refer to the picture below.



ON/OFF When the unit is off, pressing the On/OFF key will turn the unit on. Alternatively, when the unit is on, this key must be pressed and held down for about two seconds in order to turn the unit off.

[ESC] The Escape key will perform the same function as tapping the CANCEL button or the **X** button on the touch screen.

[Back space] The Backspace key is used to erase previously input characters.

[FUNC] The Function key is used to perform alternative key functions.

[TAB] The Tab key is used to toggle between data fields or to place the cursor at pre-determined places in a programming or word processing application.

[ENT] The Enter key is used to initiate a process or confirm a selection made by the user.

[Cursor] This Cursor key is used to navigate among applications.

[Alpha] This Alpha key is used to toggle between Numberic & Alpha Mode. This Apha key is also used to toggle CAPS at Alpha Mode.

Alpha Key

When the PA960 boots, the default condition is Numeric Mode on. When you toggle to Aphal Mode, the default condition is CAPS mode off.

Alpha Mode	Press alpha to alpha mode, the default condition is CAPS off.
CAPS	Press Apaha key twice to toggle CAPS
Key in	Press Cursor-UP to enter selected character.

Useful hotkeys

The PA960 provides eight combination hot keys to activate specified screen setting functions or programs. These hotkeys are useful for calibrating the touch screen, toggling the backlight, and adjusting screen contrast when the menu-driven operation is disabled. Below is the list of hotkeys. To use them, press and hold the [FUNC] key in combination with the corresponding second key.

[FUNC] + [ESC]	Check Stylus properties & Re-Calibrate the PA960's touch screen.
[FUNC] + [	Decrease screen brightness.
[FUNC] + [	Increase screen brightness.
]	
[FUNC] + [TAB*]	Toggle screen & LCD backlight.
[FUNC] + [6]	Task manager
[FUNC] + [7]	Scanner Setting.exe
[FUNC] + [8]	Power Properties
[FUNC] + [9]	System Information
[FUNC] + [0]	Space
[FUNC] + [Cursor]	Use Function key & Cursor "UP" to Toggle Display Backlight
[FUNC] + [Cursor]	Use Function key & Cursor "Down" to Toggle Keypad LED Backlight

Software Keyboard (Windows CE Keyboard)

Since the PA960's keypad allows input of numeric characters only, the Windows CE Software provides a touch screen keyboard for input of other characters. The Windows based keyboard replicates the layout of a standard PC keyboard.

Opening the Windows CE Keyboard:

The Windows CE keyboard can be opened by tapping the "keyboard" icon on the task bar.

Keying-in Characters:

After tapping the "keyboard" icon, the Windows CE keyboard pops up. Character input is the same as on a standard PC. Simply tap the on-screen button corresponding to the character you want to input.

International Character Support:

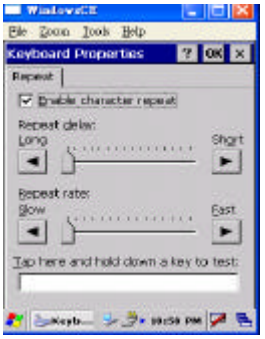
Tap the [áü] button to switch from the standard English keyboard to the European keyboard.

Moving the Keyboard:

Use the stylus to point to the title bar (the bar displaying "Input panel") and then move the stylus without lifting it from the screen.

Double tap kaypad:

Select the Keyboard Properties in Setting, tick Enable character repeat, and adjust the repeat delay and repeat rate.



Closing the Keyboard:

Tap the keyboard icon to close the Windows CE keyboard.

Using the Laser Scanner

Note: Reading software must be enabled in order to operate the scanner. This can be a user-loaded application or a pre-loaded utility such as Scanner Setting. exe.

Laser Scanner

The PA960 has an integrated laser scanner, which reads all major bar code labels with excellent performance.

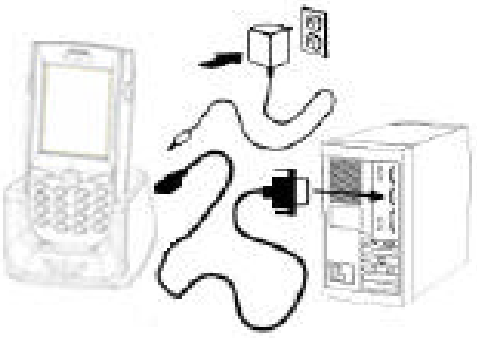
Trigger keys are located on the left and right sides of the unit. Press either one to activate the laser scanner.

The PA960 also has a built-in Scanner Setting.exe program that allows the user to test the barcode scan function. Scanner Setting.exe is located in directory \Windows\Control.

Chapter 3. Power system

Charging the Lithium-Ion Battery Pack

The optional Docking Station is a convenient accessory for daily use of the PA960. The charging will be completed withing 3 hours. Or, when using the included Charging/RS232 Cable or Carging / USB cable the charging time of the battery pack is about 3 hours.



Charging the Main and Backup Battery for the First Time

Note: Before using the PA960 for the first time, charge the unit for 16 hours to fully charge the empty backup battery. Operating the PA960 for the first time without the AC adapter, and without fully charging the backup battery may result in loss of data stored in RAM memory.

Note: Backing-up data by backup battery only without the main battery installed in the battery compartment may take as long as 6 hours. Therefore, in order to prevent data protection failure due to backup battery failure, do not leave the PA960 without the rechargeable battery pack installed, or without connection to AC power for an extended period of time.

It may take up to 72 hours to backup data when the PA960 is automatically shut down because of very low battery power while the depleted batteries are still installed in the battery compartment.

Power Status Indication

Four different icons are displayed on the status bar to indicate the on-board power status.

"Plug" icon: When displayed, this icon indicates that the battery is charging. The PA960 is either plugged-in via the DC 12V/2A power adapter or in the docking station.

Plug with power adapter

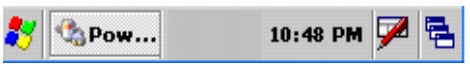
"Battery Low" icon: When displayed indicates the battery is low and needs to be charged. In other words, there is no external power supply, the battery charge is low or very low, and charging the PA960 is recommended.

Battery Low

"Battery Very Low" icon: When displayed indicates the battery is very low. Stopping the operation and charging the PA960 immediately is highly recommended.

Battery Very Low

No icon: When displayed means there is no external power supply to the PA960 but its battery power status is good.



"Backup Battery Low" icon: When displayed indicates the backup battery is low and needs to be charged.

Backup Battery Low

"Backup Battery Very Low" icon: When displayed indicates the backup battery is very low. Stopping the operation and charging the PA960 immediately is highly recommended.

Backup Battery Very Low or Backup Battery is not turned on.

Checking Main and Backup Battery Status

Enter "Power Properties":

If the above mentioned "Plug" icon or "Battery" icon is displayed, double tap this icon to bring up the "Power Properties" screen.

Or, select **Settings/Control Panel** from the **Start** menu and then double tap the "**Power**" icon to display "Power Properties".

Check Battery Status:

The battery menu item will show the status of the main and backup batteries. There are 3 kinds of status indicators — "Good", "Low" and "Very Low". Bold characters indicate the actual status, e.g. battery icons in the illustration at right mean both the main and backup batteries are "GOOD".

It is necessary to charge the battery when "Low" or "Very Low" are displayed in bold characters. If "Low" or "Very Low" are still displayed after charging, please contact Unitech Technical Support.

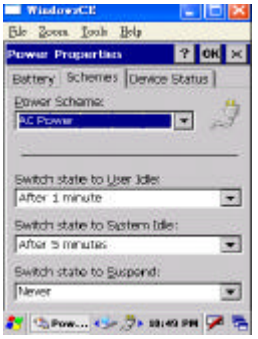
How to Save Battery Power

Automatic shut-down of the PA960

The PA960 will enter idle mode when there is no task, or all tasks are waiting for input. In default setting, the PA960 will automatically turn itself off if it remains idle for 3 minutes and when there is no external charging power applied. Pressing the power button will return the PA960 to the same point at the time of automatic shutdown.

In Power Properties, select “Battery Power”. Customize automatic shut off time by tapping the arrow to select from a list of time periods.

In Power Properties, select “AC Power”. Customize automatic shut off time by tapping the arrow to select from a list of time periods.

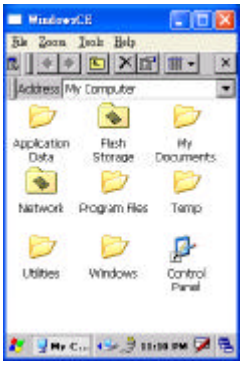


Backlight Setting

Because the power consumption of the LCD backlight is high, turn off the backlight function if it is not necessary. If a backlight is required, set “automatically turn off the back-light” function.

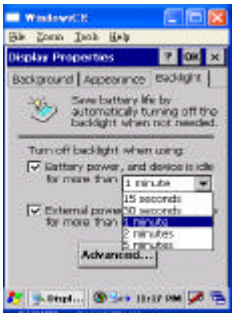
To change backlight settings, select Settings / Control Panel from the Start menu, and then double tap the “Dis-play” icon.

Tap the “Backlight” menu item to display the following 3 selections:



Automatically turn off the backlight when using battery power:

Tap the check box to toggle this function. Available idle times are: 15 and 30 seconds, and 1, 2, and 5 minutes.



Automatically turn off the backlight when using external power:

Tap the check box to toggle this function. Available idle times are: 15 and 30 seconds, and 1, 2, 5, 10, 15, and 30 minutes.

Automatically turn on the backlight when key

This function is only activated by the PA960's keypad rather than the Windows CE keyboard.

Warm Boot / Cold Boot

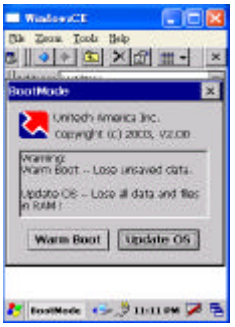
Warm Boot

- To perform a warm boot while the PA960 is operating, insert a pin (paper clip works well) into the reset hole on the back of the terminal, right below the PCMCIA cover.
- Under the Windows\ Utilities folder of your terminal, locate the file BootMode. exe, execute the program, and confirm the warning message.

WARNING: Warm Boot will cause unsaved data to be lost.

Cold Boot

Press the coldboot buttom underneith the PCMCIA cover, the terminal will perofrm coldboot.



NOTE: Cold Boot will cause the PA960 to return to its original factory settings.

Charging Considerations

It is important to consider the environment temperature whenever you are charging the Lithium-Ion battery pack. The process is most efficient at normal room temperature or slightly cooler. It is essential that you charge batteries within the stated range of -5°C to 50°C. Charging batteries outside of the specified range could damage the batteries and shorten their charging life cycle.

Storage and Safety Precautions

Although charged Lithium-Ion batteries may be left unused for several months, their capacity may be depleted due to build up of internal resistance. If this happens they will require recharging prior to use. Lithium-Ion batteries may be stored at temperatures between-20°C to 60°C, however they may be depleted more rapidly at the high end of this range. It is recommended to store batteries within normal room temperature ranges.

Chapter 4. Communication

Introduction

The Unitech PA960 allows users to link to a host computer via RS-232,USB, IrDA, or RF connection for data communication.

This chapter provides an overview of the communication of the PA960. The following subchapters cover these topics:

- ”Microsoft ActiveSync” for details about serial communication via RS232/ USB port.
- “RF Communication” for details about wireless communication between mobile PA960 and host computers.

Connecting

Serial or USB Cable

Plug the RS232 or USB end of the communication cable to the PC’s 9 pin Com Port and the other into the PA960 RS232/USB/Charging Port (see page 3). Plug the Power Supply into the Power Receptacle on the RS232 or USB plug.

Docking Station

Plug the RS232 end of the communication cable to the PC’s 9 pin Com Port and the other end into the Cradle’s RS232 Port. Plug the Power Supply into the Power Receptacle on the Docking Station.

ActiveSync

In order to exchange data between your desktop computer and the PA960, Microsoft ActiveSync must be installed on your desktop computer.

With Microsoft ActiveSync you can:

- Transfer data.
- Back up and restore PA960 data.
- Add programs to and remove programs from the PA960.

This chapter will introduce Microsoft ActiveSync version 3.5. ActiveSync provides a user-friendly interface and it can be downloaded free of charge from Microsoft's Web site.

Installing Microsoft ActiveSync

Before beginning installation, carefully read the following:

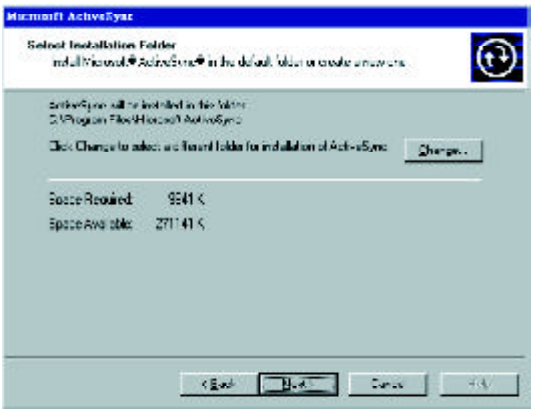
- Because you will be restarting your computer during installation, save your work and quit all programs before you begin.
- To set up your communication settings, a PA960 serial cable is required to connect the PA960 to your host computer.
- If you run the Windows NT® operating system with a service pack, you will be informed during setup that you may need to reinstall the service pack. Try connecting first, and if unsuccessful, reinstall the latest service pack.

Installation

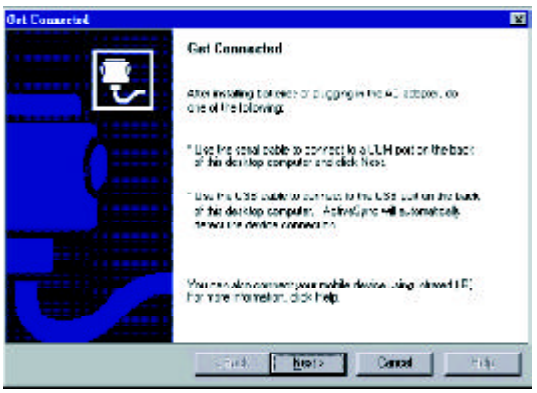
Follow the installation procedure below to install Microsoft ActiveSync, connect your PA960 to your desktop computer, and establish a partnership for synchronization (if desired):

- Download the executable program “msasync.exe” from the Microsoft web site at: http://www.microsoft.com/mobile/pocketpc/downloads/activesync35.asp.
  Execute this program.

- Select the folder into which Microsoft ActiveSync will be installed. If you choose not to download into the displayed default folder, click the **Change** button.



- After you’ve selected the folder, click **Next** to set up Microsoft ActiveSync. After you’ve installed Microsoft ActiveSync and restarted your computer, you’ll see the following screen:

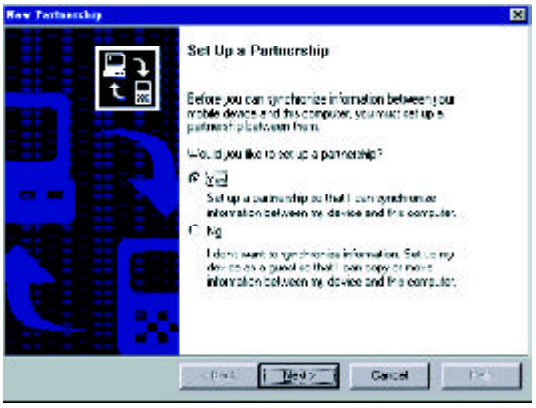


- Using the RS232 cable or USB, plug the PA960 into a communication port on your desktop computer.

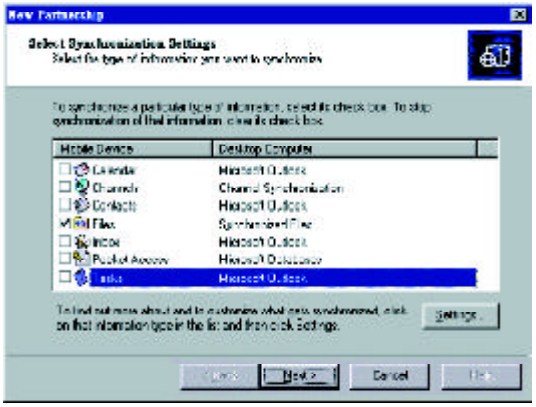
- Turn the PA960 on. Click the **Next** button.

Microsoft ActiveSync should recognize your PA960 and configure your communication port. If a message appears indicating that it is unable to detect a connection, click the **Cancel button** and manually configure the communication settings. For more information, see “Change Communications Settings” later in this chapter.

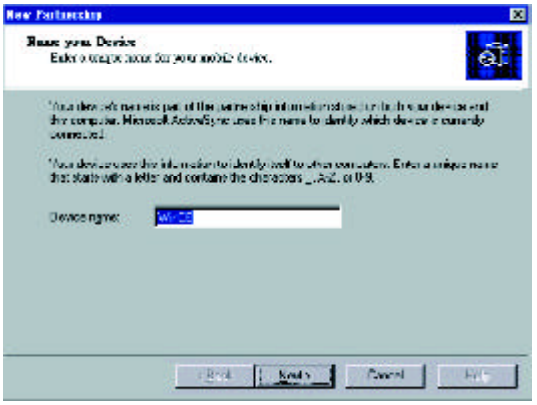
- When the PA960 is initially connected to a PC, the following screen appears prompting you to set up a “Partnership”. Setting up a Partnership is required if your PA960 is to be synchronized with other computers and/or terminals. Otherwise select No.



- Now select synchronization settings. Currently the PA960 can support “**Synchronized Files**”



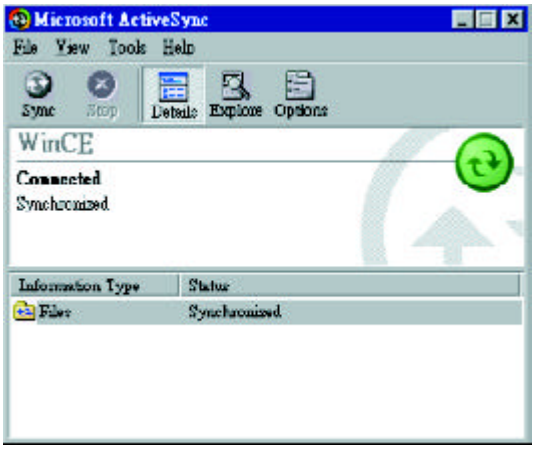
- Different PA960 cannot share the same Device Name if more than one terminal is to be connected to the same PC via a “Partnership”. The default Device Name assigned to the PA960 is “WinCE”.
  It is important to specify a different name for each terminal if more than one terminal is to be connected to the same PC. When ActiveSync displays the following screen, assign each terminal its own unique name.



Click the **Next** button and follow the instructions to set up a partnership between the PA960 and your desktop computer.

This partnership allows you to synchronize information between the two computers.

- When the configuration process is complete, you’ll see the following screen:

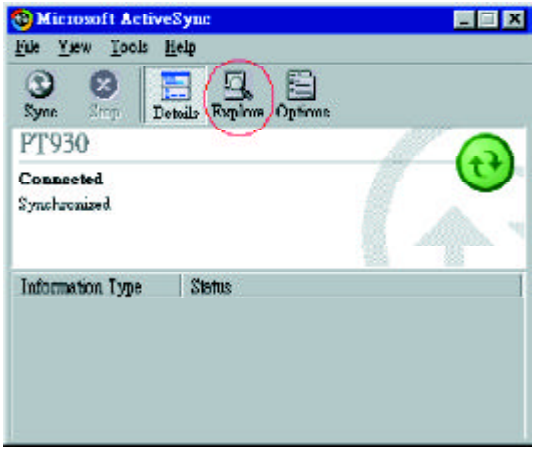


Synchronization will be initialized and will take place if you’ve chosen to synchronize periodically or upon connection.

Note: Your desktop computer can create a partnership with multiple PA960. Also, a PA960 can create a partnership with up to two desktop computers.

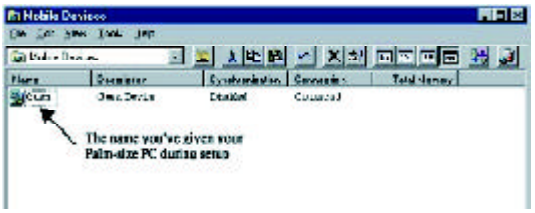
Using the Mobile Devices Window

Start Microsoft ActiveSync by clicking the **Microsoft ActiveSync** shortcut on your desktop and then clicking the "Explore" icon.



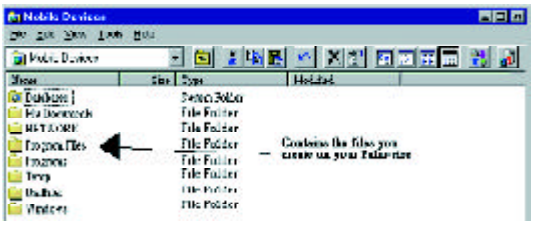
In the displayed window, you can:

- Select your PA960 to use Microsoft ActiveSync features such as changing synchronization options, as described in the "Synchronization" section.



- Open the Explorer window by double-clicking your device icon in the Mobile Devices window.

  Use this window, which is the root window to the PA960, to copy and move files between the PA960 and your desktop computer, as described in the "Synchronization" section.



Changing Communications Settings

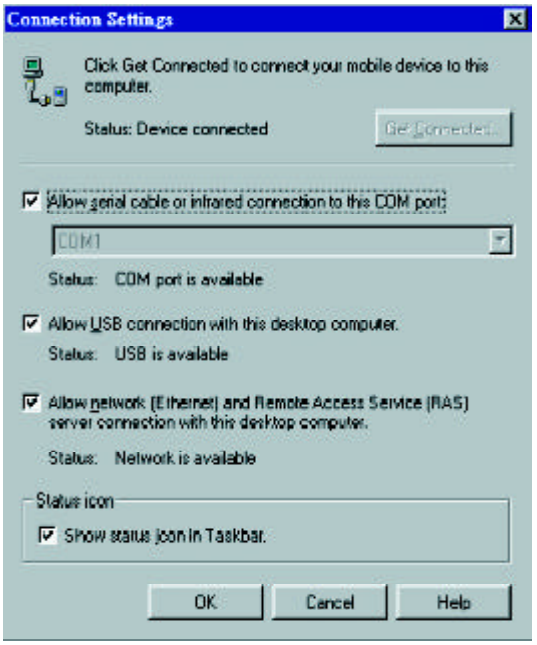
If Microsoft ActiveSync fails to detect the PA960 during installation, set up communications manually instead. Make sure the following conditions are met:

- Verify that the correct communications port is selected for your desktop computer, and that it is free.

- Microsoft ActiveSync uses the specified communication ports to connect to the PA960. Make sure these resources are available for Microsoft ActiveSync to connect to the PA960. Other programs cannot use them while the PA960 and your desktop computer are connected.

- Set your baud rate on the PA960 and desktop computer will match it.

To check communications settings, open the Mobile Devices folder, and click **File => Connection Settings**.


Connection Settings
Click Get Connected to connect your mobile device to this computer.
Status: Device connected
Get Connected
Allow serial cable or infrared connection to this COM port:
COM1
Status: COM port is available
Allow USB connection with this desktop computer.
Status: USB is available
Allow network (Ethernet) and Remote Access Service (RAS) server connection with this desktop computer.
Status: Network is available
Status icon
Show status icon in Taskbar.
OK
Cancel
Help

The baud rate on the PA960 is set to 57600bps by default. To adjust the baud rate, tap **Start, Settings, Control Panel**, select the **Communication icon,** select the **PC Connection** Tab, and then tap the "**Change Connection….**" Button. For more information, see Microsoft ActiveSync Help.

If you want to change the terminal's default baud rate or use IrDA to communicate with the Host PC, follow the steps below to adjust it:

1. Tap **Start, Settings, Control Panel, Communications**
2. Tap the **PC Connection** tab.
3. Tap the **Change Connection** button
4. Select the baud rate from the list box.

Synchronization

You can *synchronize* information between the PA960 and your desktop computer to insure both computers have current information. First you'll need to install Microsoft ActiveSync on your desktop computer.

Synchronization takes place according to the options you chose during Microsoft ActiveSync setup. If you accept the default (**On Connect**) synchronization option in the Microsoft ActiveSync Setup Wizard, you'll be able to simply connect your PA960 to your desktop computer, and synchronization will take place.

If you have not enabled **On Connect**, start Microsoft ActiveSync in either of the following ways:

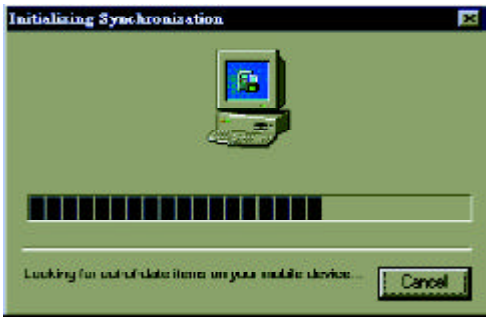
- On your desktop computer, double-click the My Computer icon and then double-click the Mobile Devices folder.

- Plug the RS232 cable or USB cable between the PC and the PA960.
- Execute "Repllog.exe" from the PA960's Windows directory (if ActiveSync is setup to sync using the IrDA port on both PC and PA960).

To turn on IrDA:

1. Click on the "Control Panel" icon on your PA960
2. Double-click the "Communication" icon
3. Click the "PC Connection" tab
4. Tap the "Change Connection" button
5. Select IrDA.

Synchronization will take place according to options you've chosen. To initiate synchronization manually, click **Tools**, and then **Synchronize Now**.



Synchronization may take a few minutes, as each item to be synchronized needs to be processed. You'll see a message indicating that synchronization is taking place.

After you've synchronized, you'll see the status message in the status bar of the Mobile Devices windows. At any time, you can check the status. Click the Tools menu, and click ActiveSync Status to display the ActiveSync Status window.

What Gets Synchronized

The following sections provide an overview of how various types of information are synchronized. For details on synchronizing specific items, see Microsoft ActiveSync Help.

Files

All files you create on the PA960 are stored in a **My Document/PA960 My Documents** folder (if the assigned Device Name is **PA960**). View those files by double-clicking the short-cut **PA960 My Documents** icon on your desktop computer.

If you have enabled file synchronization, your PA960 files are automatically synchronized on your desktop computer file folder WinCE_PC My Documents - unless a different name was chosen for the PA960. This folder can be found in one of following locations:

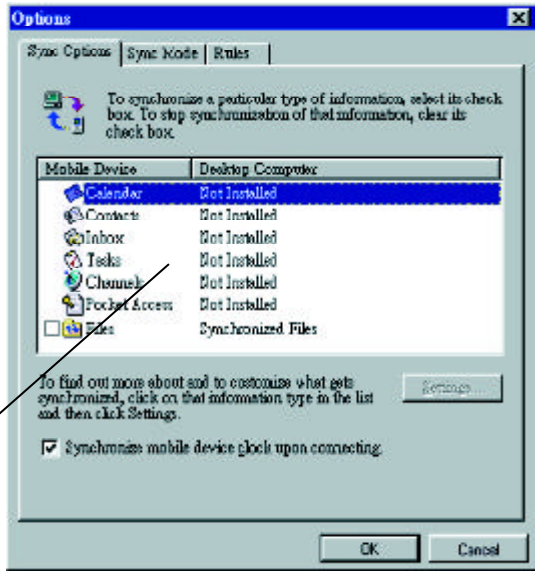
- Windows 95/98: My Documents\WinCE_PC My Documents.
- Windows NT:WINNT\Profiles*your user-name*\Personal\WinCE_PC My Documents.

During synchronization, files are copied back and forth between the PA960 and the desktop computer.

Changing Synchronization Options

Synchronization options can be modified, including when you synchronize and what gets synchronized. In the Mobile Device window, click **Tools**, and then **Sync Options.**

For each type of information, the synchronization process can be hastened by limiting the amount of data to be synchronized. To do this, select a service and click the **Settings** button.



Inbox, Tasks, and Channels not supported

Note:
- The PA960 only supports File synchronization. Inbox, channels, and Tasks are not supported.
- After enabling a service, you must close and reopen the ActiveSync Options dialog box before the Option button is available for that service.

Installing and Removing Software

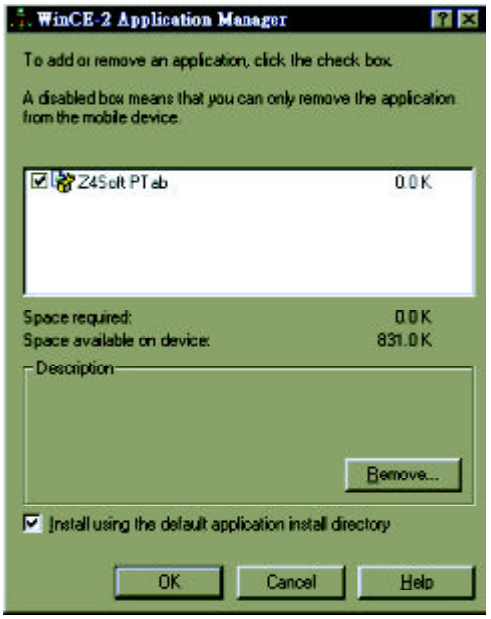
Any program created for your PA960 can be installed as long as there is sufficient memory or storage space.

First install the software on your desktop computer and then connect the PA960 to your desktop computer. Some software programs provide their own setup instructions. Most software programs use Application Manager to install and remove software on the PA960. In the Mobile Device window, click **Tools**, and then click **Application Manager**.

Application Manager detects the software that is available but not yet installed on the PA960.

System software and programs added to the PA960 at the factory are stored in FlashROM. You cannot remove or modify this software, and you'll never accidentally lose FlashROM contents.

Software programs and data files added to your PA960 after factory installation can be stored in RAM or Flash Memory.



InBox

Following is an overview of InBox. Step-by-Step information on how to use this program can be found in the Help function on the PA960. To view Help, tap **Start**, and then **Help**.

Sending and Receiving E-Mail with InBox

Use InBox to send and receive e-mail messages using any of these methods:

- Send and receive messages using a dial-up connection to a service provider or your corporate network.
- Send and receive messages using a wireless network card to a local area network (LAN).

Note: You can send and receive messages with Inbox, but this function cannot be synchronized with Outlook.

Sending Mail Remotely

In addition to exchanging mail messages with your desktop computer, you can send and receive mail from a remote mail server by setting up an e-mail account with a service provider.

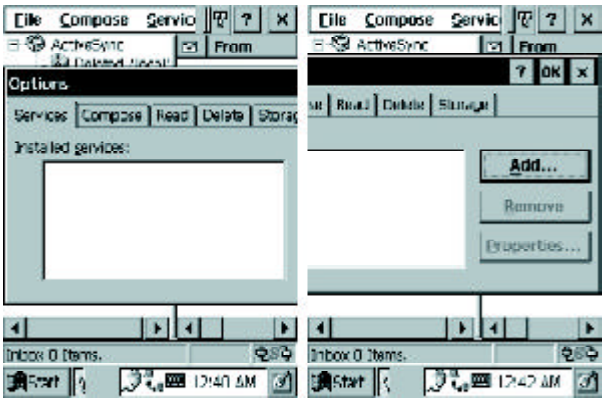
Note: If you're setting up an Internet mail account with an ISP (Internet Service Provider), the ISP must use a POP3 mail server and an SMTP mail gateway.

For dial-up connections, you'll require an internal PCMCIA type modem card or external modem for the PA960. You'll also need to set up the remote connection on the PA960 using the Connections program.

For wireless connections, you'll require an RF card for the PA960. You'll also need to set up the remote connection on the PA960 via the **Network** setting.

Setting Up Remote Mail

You can use multiple mail services to obtain mail. For each mail service you will access, first set up and name each mail service. If you will use the same service to connect to different mailboxes, set up and name each mailbox connection.



In the InBox on the PA960, tap **Compose**, **Options**, the **Services tab**, and then the **Add** button. A setup wizard will walk you through the steps.

The software for creating an Internet Mail connection to an ISP is pre-installed on the PA960.

Work Remotely

Mail received via dial-up connection appears in the InBox folder on the PA960, together with the mail you synchronize with your desktop computer. Messages received remotely are linked to your mail server rather than to your desktop computer.

You can work online, which means that you read and respond to messages while connected to the server. Messages are sent as soon as you tap **Send**, which saves space on your device.

You can also work offline. Once you've downloaded new message headers or partial messages, you can disconnect from the server and then decide which message to download completely. The next time you connect, InBox automatically downloads the complete messages you've marked for retrieval and sends the messages you've composed.

Receiving Messages

Messages received by synchronizing with your desktop computer and through remote connections appear together in your InBox. Double-tap a message to read it.

When you connect to your Internet mail service, the InBox downloads only the first 100 lines of each new message to the InBox folder by default. No mail attachments are downloaded. When you synchronize with your desktop computer, only the first 50 lines of each new message remains on the mail server or your desktop computer.

You can mark the messages that you want to retrieve in their entirety the next time you synchronize or connect to your mail service. Select the message, tap **Service**, and then tap **Retrieve Full Copy**. The icons in the InBox messages list give you a visual indication of the message status.

Specify your downloading preferences when setting up the service or selecting your synchronization options. You can change them at any time.

- To change InBox delivery options for mail synchronization: in the Mobile Devices window on your desktop computer select your WinCE icon, click **Tools**, and then click **ActiveSync Options**. Select **Message** and then click **Options**. (For the **Options** button to be available, you must have previously enabled message synchronization.)
- To change InBox delivery options for remote mail: in InBox on your PA960, tap **Service** and then tap the service name. Then tap **Service** again and tap **Properties**.

You'll need to download a full message before you can view its attachments.

Sending Messages

To compose a new message, tap the **New Message** button on the command bar. Enter an e-mail address in the **To** field or select a name from the Address Book. All e-mail addresses entered in the e-mail fields in Contacts appear in the Address Book.

To send your message, tap **File** and **Send**. Messages are placed in your OutBox folder on the PA960 and will be delivered to their destination in one of two ways:

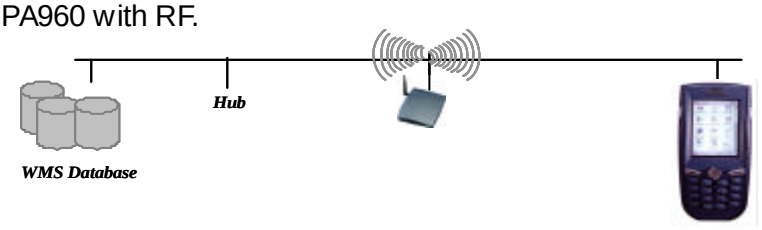
- They are transferred to the OutBox folder in Exchange or Outlook on your desktop computer the next time you synchronize.
- They are transmitted to your mail server the next time you connect remotely. In InBox, make sure the appropriate service is selected on the **Service** menu. Then tap **Connect**.

RF Communication

Windows CE can support TCP/IP protocol, so the user can easily connect to the Internet by Modem or RF. The following chapter is an introduction on how to connect the PA960 to a network via TCP/IP.

There are several PCMCIA RF cards available on the market. These cards provide the PA960 with wireless communications. Currently, Unitech provides Cisco 350, Agere (Lucent OEM 802.11b card) support for the PA960 with the drivers pre-installed. By selecting a supported card for the PA960 RF communication will be “plug-and-play”.

RF networks look and operate similarly to Ethernet networks. The only difference is that a radio transmission replaces the hard-wire connection between the various nodes. This means all of your existing applications that currently operate over Ethernet will also function utilizing WLAN without any special wireless network software. This picture illustrates a typical network topology including the PA960 with RF.



Installing the Wireless Local Area Network (WLAN) Card

- Power off the PA960.
- Remove the stylus, using the screw driver in the stylus to remove the screw, and then open the PCMCIA compartment.
- Attach the snap-on antenna to the RF card if required (only the Cisco card comes with a pre-installed antenna).
- Attach pulling-tag to antenna.
- Insert the RF card into the PCMCIA slot.

RF Card Cushion

Remove the protective backing from the sticky side of the RF Card Cushion and install the cushion along the inside upper edge of the PCMCIA Cover as shown. The RF Card Cushion prevents damage to the RF card antenna in case the PA960 is accidentally dropped.

Re-attach cover to the PA960

Setting Up the Wireless Card

The PA960 is pre-loaded with connection software from Cisco and Lucent WaveLAN (Agere Orinoco). The PA960 will automatically detect these RF cards and then display the following screen during the first-time installation. Please note that there are two ways to set the IP address:

Obtaining an IP Address via DHCP Server

Please check with your MIS department to determine whether a DHCP server is available in your LAN environment. If available, tap the radio button **Obtain an IP address via DHCP**, and then tap the **OK** button.

Specifying an IP Address

If there is no DHCP server in your LAN environment, specify the individual IP address on each PA960 with the following steps:

- Tap the radio button **Specify IP Address.**
- Input the proper **IP address, Subnet Mask,** and **Default Gateway.**
- Tap the **Name Servers** tab, and then input the proper **Primary DNS, Secondary DNS, Primary WINS,** and **Secondary WINS.**

To avoid conflict with your LAN environment, please consult with your MIS department for the correct TCP/IP setting.

How to Set SSID

Lucent WaveLAN (Agere Orinoco)

- **Tap Start**, **Control Panel**.
- Double-click the **WaveLAN icon.**
- Under the **"Basic" tab**, after "**WaveLAN Network Name**", enter "SSID". Tap **OK**

Cisco

- Tap **Start. Run, Browse**.
- Select the **Windows directory**.
- Select **Aironet Client Utility.exe**, Click **OK**. Click **OK** again.
- Select **SSID**. Click **OK**

Power Management
(Required to prevent battery drainage due to extra power usage of RF cards.)

Lucent WaveLAN (Agere Orinoco)

- Tap **Start, Control Panel**.
- Double-click the **WaveLAN icon**.
- Under the **"Power Management" tab**, select **"Card Power Management"**. Tap **OK**

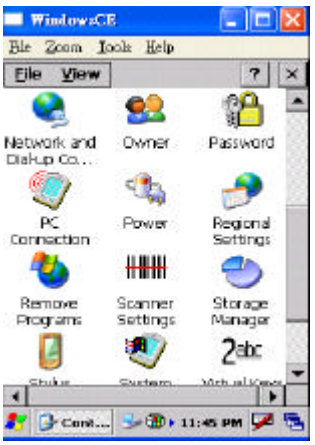
Cisco

- Tap **Start. Run, Browse**.
- Select the **Windows directory**.
- Select **Aironet Client Utility.exe**, Click **OK**. Click **OK** again.
- Select **Power Save Mode**. Select **MAXPSP**. Click **OK**

Chapter 5. Useful Application Program

Scan2Key

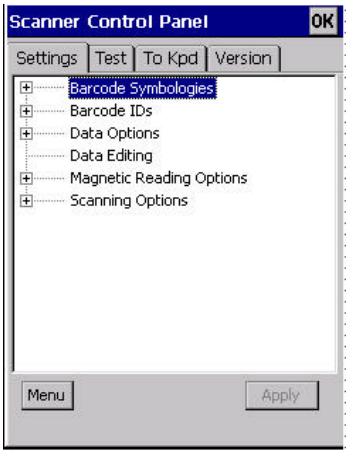
The Scan2Key application can route input from a scanner port to kaypad buffer, so that all input from scanner will be treated as they are just input from keypad. With this router, scanned data can be directly input into scanner port aware application, like MS Pocket Word.



WindowsCE
File Zoom Tools Help
Scanner Control Panel
OK
Settings
Test
To Kpd
Version
Scan2Key application can route input from scanner port to keypad buffer, so that all input from scanner or magnetic reader will be treated as they are just input from keypad. With this router, scan data can be directly input into not scanner port aware applications, like MS
Start Scan2Key When Exit
10:52 PM

Scanner Setting

When it is necessary for the user to change the default barcode symbology for a different application, **Scanner Control Panel** provides the ability to change default symbology, place delimiter charac-



Run this program from **\Windows\Scanner Setting.**

Barcode Symbologies:
Set customization symbologies for each symbology including:

Symbology	Enable Disable	Send Check Digit	Max./Min Length	Send Leading Digit	Other
Code 39	Yes	Yes	Yes		Full ASCII Send Start/Stop Character
I 2 of 5	Yes	Yes	Yes		Send Start/Stop Character Fix Length
S25/Toshiba	Yes	Yes	Yes		Fix Length
Code 32	Yes				Send Leading Code Send Trailing Code
Telpen	Yes				Character Set
EAN 128	Yes				
Code 128	Yes		Yes		
MSI/Plessy	Yes	Yes	Yes		Check Digit Module
Code 93	Yes		Yes		
Code 11	Yes	Yes	Yes		One/Two Check Digit
CodaBar	Yes	Yes	Yes		Send Start/Stop Character CLSI Format On
Label Code	Yes	Yes			
UPC-A	Yes	Yes		Yes	
UPC-E	Yes	Yes		Yes	Zero Expansion On Enable NSC
EAN 13	Yes	Yes		Yes	Enable Bookland
EAN 8	Yes	Yes		Yes	
Delta Code	Yes	Yes			Calculate Check Digit
Supplement					Supplement 2 Supplement 5 Space Separator Inserted If Present, Transmit / Presence Required

The Other Userful Applications
Unitech provides Operation Manual for the other userful applications, please refer to the CD-ROM in your PA960 package or contact Unitech technical support.

Appendix A

Technical Specifications

CPU/Memory

CPU	Intel StrongARM 206MHz 32 CPU. Built-in real-time clock. 32MB for OS and application programs.
Flash ROM	32MB Built-in (Flash Memory Manager included)
SDRAM	64MB

Input/Output

Input Devices	Touch screen, stylus, keypad, full alphanumeric software keyboard, mag stripe reader, and bar code scanner
Keypad	19 physical keys with backlight including cursor key, numeric keypad, alpha keypad,TAB, ESC, FUNC, brightness and contrast controls
Audio Output	A piezoelectric buzzer with software controlled volume
Display	240 x 320 pixels portrait type, 65535 Color LCDwith touch screen and Electroluminescent backlight. Contrast adjustable by software hotkey
LED Indicator	Dual colors (green/red) for barcode good read indication

Scan Engine

Light Source: Visible Laser Dicode(VLD) 650nm.

Scan Rate: 39±Scan/Sec

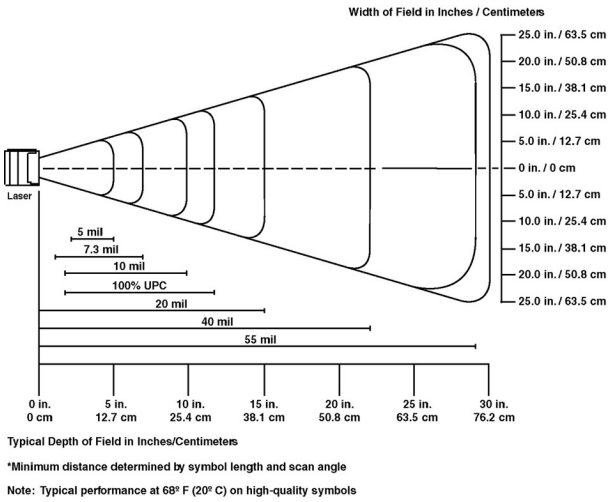
Scan angle: ±53° from normal

Min. print contrast: 25% absolute dark/light reflectanceat 650nm

Power Consumption: 65mA typicle@5V

Depth of Field: See next page

Laser Typical Depth of Field


Width of Field in Inches / Centimeters
25.0 in. / 63.5 cm
20.0 in. / 50.8 cm
15.0 in. / 38.1 cm
10.0 in. / 25.4 cm
5.0 in. / 12.7 cm
0 in. / 0 cm
5.0 in. / 12.7 cm
10.0 in. / 25.4 cm
15.0 in. / 38.1 cm
20.0 in. / 50.8 cm
25.0 in. / 63.5 cm
Laser
5 mil
7.3 mil
10 mil
100% UPC
20 mil
40 mil
55 mil
0 in. 0 cm
5 in. 12.7 cm
10 in. 25.4 cm
15 in. 38.1 cm
20 in. 50.8 cm
25 in. 63.5 cm
30 in. 76.2 cm
Typical Depth of Field in Inches/Centimeters
*Minimum distance determined by symbol length and scan angle
Note: Typical performance at 68º F (20º C) on high-quality symbols

	Near	Far
5 mil	2.0 in. (5.1 cm)	5.2 in. (13.2 cm)
7.5 mil	1.7 in. (4.3 cm)	8.0 in. (20.3 cm)
10 mil	1.8 in. (4.6 cm)	10 in. (25.4 cm)
100% UPC	1.9 in. (4.8 cm)	13 in. (33 cm)
20 mil	*	20 in. (50.8 cm)
40 mil	*	25 in. (63.5 cm)
55 mil	*	30 in. (76.2 cm)
* Dependent upon symbol width		

Decode Zone

Interface Port

RS232/USB/Charging Port Power charging and EIA RS232C supports full duplex asynchronous communications and baud rate up to 115.2K bps.

IrDA Compliant to IrDA 1.2 (SIR). Baud rate up to 115.2K bps.

PCMCIA & CF PCMCIA Type II slot & CF Type I & Type II slot accept memory, modem, and RF cards

Power

Power Options	Lithium-Ion @7.4V, 1800mAH Main Battery Pack (Battery pack can be recharged 500 cycles or more) External AC/DC adapter @12VDC/2A with regulator
Power Consumption	**Lithium-Ion battery: At 8V** Standby mode: 100mA Suspend mode: 5mA
Battery Charge	3 hours with external AC/DC adapter 3 hours with docking station
Backup Battery	1 rechargeable1.2V, 600mAH Ni-MH battery cell for data backup
Power Management	Power consumption indicated on status bar

Barcode/Symbology

Symbology	Codabar	EAN128
	Code 11	Interleaved 2 of 5
	Code 32	Label Code
	Code 39	MSI/Plessy
	Code 39 Full ASCII	Standard 2 of 5
	Code 93	Toshiba
	Code 128	Telpen
	Delta Code	Toshiba
	EAN-8, 13	UPC-A, E

OS and Software Programming Tools

OS	Microsoft Windows CE.NET 4.2 Professional Plus
Development Language	Microsoft Embedded Visual C++ 4.0, Visual Studio.NET 2003.

Mechanical and Environmental

Dimensions	Length: 7.28” (18.5cm) Width: 3.49” (8.76cm) Depth: 1.70” (4.33cm)
Weight	15.59 oz. (442g) with battery pack
IP Rating	IP 54
Temperature	Operation: -5°C to 50°C Storage: -20°C to 60°C
Humidity	5% to 95% RH non-condensing
Shock	Multiple 4.0’ (1.2m) drops to concrete

Docking Station

Interface	1 EIA RS232C IDC type connector via PC/computer, 1 USB port
Power Input	16 pin connector for charging and communication pads to main unit Quick charging typically takes 3 hours AC/DC adapter @ 12 VDC/2A with regulator

Pin Assignment of Charge and Communication Port

Pin	Assignment	Description
1	DCD	
2	RXD	Receive Data
3	TXD	Send Data
4	DTR	Data Transmit Ready
5	SG	Signal Ground
6	DSR	Data Set Ready
7	RTS	Request to Send
8	CTS	Clear to Send
9	RI	Ring Indicator
10	USB 5V	USB 5V
11	12V	12V Input
12	NC	
13	NC	
14	GDN	Ground
15	UDC	USB Differential Data Signal High Side
16	/UDC	USB Differential Data Signal Low Side

Appendix B

Update and Upgrade OS

Update OS via Compact Flash (ATA card)

In order to upgrade or re-install the PA960 OS via Compact Flash, you will require the NK.bin file (available from Unitech Technical Support):

Insert CompactFlash chip into PC Card Adapter

Note: File name must be "NK.bin" – do not rename it.
CAUTION: Users files will be erased!

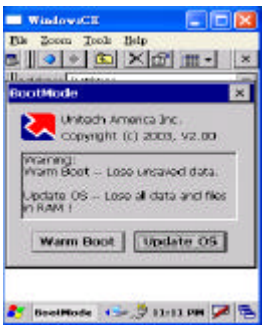
1. Copy file "NK.bin" from the PC to the root directory of the Compact Flash card.
2. Insert the Compact Flash Card into the PA960.
3. Plug the power adapter into the PA960.
4. Run \Windows\BootMode.exe from PA960 by tapping My Computer -> Windows -> double tapping "BootMode" .

5. Press OK.
6. The PA960 will display the following screen:

PA960 BootLoader Ver 1.11

PA960 Boot Loader Option
(1) Ethernet Image Update
(2) OS Image Update
(3) Boot Loader Update
(4) Serial Port Image Update
(5) Jump to WinCE
(6) Flash Erase

Choise:



7. Press the ‘2’ key to select “OS Image Update”. FlashRom’s content will be erased and the new OS will be written to FlashRom. Then you will see the system will automaticlly run the following steps.:

   (1). Image goint to Flash
   (2). Erasing Flash
   (3). New programming Flash

After the OS is successfully updated, the PA960 will automatically cold-start with the new OS.

Appendix C

Troubleshooting Guide

Problem	Solution
Terminal does not power on.	Battery needs recharging or replacement.
	Insure that battery is installed correctly.
Terminal shuts itself down.	Adjust " Power Properties"
	Battery needs recharging.
Battery life is short	Adjust " Power Properties" - especially if peripherals are used.
	Adjust backlight of LCD or Keypad.
	Replace battery pack if old(battery can be recharged approximately 500 cylces.)
"Low Backup Battery" message	Charge terminal for 16 hours.
Screen is blank	Make sure terminal is powered on.
	Adjust screen brightness.
Terminal either dow not respond, or responds inaccurately to touch screen input.	Calibrate touch screen.
	Perform a warm boot **- WARNING - Unsaved data will be lost.**
	Perform a cold boot **- WARNING - Terminal will be reset to default settings and data will be lost.**
Bar code not read.	Make sure scanning application is loaded and operational.
	Run " Scanner Setting" program to modify barcode read setting.
	Bar code might be distorted and should be replaced.
	Battery needs recharging or replacement.
Terminal will not shut off.	If terminal is processing data, attach charging cable to insure the battery isn't depleted.
	If terminal is connected to AC power, disconnect.
	Perform a warm boot **- WARNING - Unsaved data will be lost.**
	Perform a cold boot **- WARNING - Terminal will be reset to default settings and data will be lost.**

FCC Statement

This is a FCC Part 15 Class B product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

Canadian Compliance Statement

This Class B Digital apparatus meets all requirements of the Canadian Interferance-Causing Equipment Regulations.
Cet appareil numerique de la classe B respecte les exigences du Reglement sur le material broilleur du Canada.
The device is certified to the requirements of RSS-139-1 for 2.4 GHz spread spectrum devices.

European Conformity Statement

Declaration of Conformity with Regard to the R&TTE 1999/5/EC and EMC 89/336/ EEC directives.

Laser Information

The Unitech PA9600 is certified in the U.S. to conform to the requirements of DHHS/CDRH 21CFR Subchapter J and to the requirements of IEC 825-1. Class II and Class 2 products are not considered to be hazardous. The PA960 contains internally a Visible Laser Diode (VLD) whose emissions do not exceed the maximum limits as set forth in the above regulations. The scanner is designed so that there is no human access to harmful laser light during normal operation, user maintenance or during prescribed service operations.

CAUTION - Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous laser light. Use of optical instruments with the scanner will increase eye hazard. Optical instruments include binolulars, microscopes, and magnifying glasses. This does not include eye glasses worn by the user.

The laser safety warning label required by the DHHS/IEC for the PA960's optional laser scanner module is located on the memory compartment cover, on the back of the unit.